

• *Piper yoroanum* Trelease, sp. nov.

A shrub 2 m. tall; flowering internodes moderate, crisp-subhirsute, pale-granular when denuded; leaves elliptic-subobovate, sharp-acuminate, the narrowed base inequilaterally rounded, 7-9 × 15-18 cm., pinnately nerved from the lower half, the nerves 5 or 6 × 2, minutely scabrid becoming granular and lepidote above with hispid nerves, the nerves beneath appressed-hirsute and the surface scabrid; petiole 5 + 5 to 15 + 5 mm. long, hispid; spikes opposite the leaves, as yet 3 × 50 mm.; peduncle 5 mm. long, hispid; bracts rounded-subpeltate, ciliolate.

HONDURAS: In wet thicket, Quebrada Seca, Dept. Yoro, alt. 30 m., December, 1927, *Paul C. Standley* 53889 (Herb. Field Mus. No. 583,866, type).

Spikes pale green.

ZOOLOGY.—*The development and generic position of Sagrina (?) tessellata* H. B. Brady.<sup>1</sup> JOSEPH A. CUSHMAN, Sharon, Massachusetts.

Brady described *Sagrina (?) tessellata* in the *Challenger Report* (Zoology 9: 585. *pl. 76, f. 17-19*. 1884), from two or three specimens from Nares Harbor, Admiralty Islands, 17 fathoms, and from Raine Island, Torres Strait, 155 fathoms. His original description reads as follows:

Test cylindrical, arcuate, slightly tapering; composed of a few (four or five) elongate, oval or subcylindrical segments, each a good deal larger than its predecessor, joined end to end. Surface areolated; the areae, which are of elongate, hexagonal form, disposed in regular, alternating, transverse lines. Aperture a central rounded orifice, with or without a sessile lip. Length 1/45th inch (0.57 mm.).

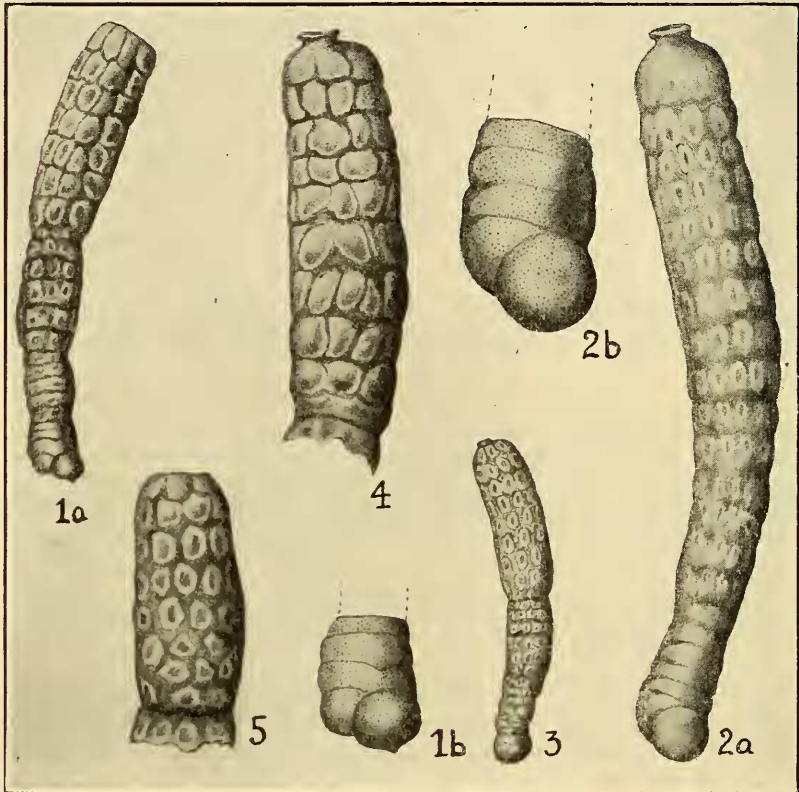
Other records for this species are given by Howchin from the Tertiary of Australia (Trans. Roy. Soc. So. Australia 12: 11. *pl. 1, f. 7*. 1889), by Millett from the Malay Archipelago (Journ. Roy. Micr. Soc. 1903: 273. *pl. 5, f. 16*), by Schubert from the Pliocene of the Bismarck Archipelago, a single 4-chambered specimen (Abhandl. k. k. geol. Reichs. 20 (4): 89. 1911), and by Heron-Allen and Earland from the Kerimba Archipelago off southeastern Africa (Trans. Zool. Soc. London 20: 677. *pl. 51, f. 9*. 1915). These authors note that they "have records of it from many shallow gatherings in the Malay and Eastern Seas."

With this species is another, evidently closely related, named by Brady *Sagrina limbata* and studied farther by Millett, who found that the chambers are divided into chamberlets. He notes: "The division of the chambers by transverse septa is not a character of the genus *Sagrina*, and further researches will probably render it necessary

<sup>1</sup> Received July 11, 1929.

to constitute a new genus embracing the species *tessellata*, *limbata*, and probably *annulata*."

In his paper in 1911, Schubert applied the name *Millettia* to Brady's species. This name having already been used, A. Silvestri (Riv. Ital. Pal. 1911: 67, footnote) proposed the name *Schubertia* to take its place.



Figures 1-5.—*Schubertia tessellata* (H. B. Brady). 1, 2, Possibly microspheric specimens. 3, Megalospheric specimen (after Brady). 4, Apertural end. 5, Peculiarly tessellated surface. Magnifications: Fig. 1,  $\times 120$ ; 2,  $\times 160$ ; 1a,  $\times 240$ ; 2a,  $\times 350$ ; 3,  $\times 75$ ; 4,  $\times 160$ ; 5,  $\times 160$ .

Two years ago, I examined the types in the Brady Collections in Cambridge and London, but the specimens were apparently megalospheric, and gave no clue to the early development. Lately I have found a series of specimens in Philippine material from Tacloban Bay among which are some, possibly microspheric, which give a clue to the early development. Two of these early series of chambers are figured

here (Figures 1, 2). They are apparently a generally biserial arrangement with indications of being slightly twisted. Such a development would place it in close relationship with *Siphogenerina* (*Sagrina* of numerous authors). In the megalospheric form figured by Brady, *Challenger*, pl. 76, fig. 17 (our figure 3), the early chambers are already apparently divided into chamberlets. In our specimens which show the early biserial stage, there are several chambers in a uniserial group which do not seem to be divided, and this character is only taken on after several simple ones are formed. As far as can be made out, the divisions of the chambers in *tessellata* are incomplete, but in some specimens they may be complete.

Our specimens show the apertural characters very well, and two of them are shown here. There is a definite neck with a spreading lip, as is characteristic of most species of *Siphogenerina*.

From a study of this series of specimens, it would seem that Silvestri's genus *Schubertia* may be used for *S. tessellata* (H. B. Brady) and *S. limbata* (H. B. Brady), but the structure of Brady's *Sagrina* (?) *annulata* is still in doubt. *Schubertia* is probably derived from *Siphogenerina* although it may be related to *Rectobolivina bifrons* which had numerous characters similar to those of *Schubertia limbata* particularly. The genus has existed in the Indo-Pacific region at least since the Early Tertiary, and today is widely distributed in that area from the coast of Africa to the Philippines and southward to Australia.

ZOOLOGY.—*Earthworms of North America*.<sup>1</sup> G. E. GATES, Judson College, Rangoon, Burma. (Communicated by MARY J. RATHBUN.)

Earthworms have received very little attention from our zoological investigators. Only one American, Frank Smith, has devoted any considerable amount of time to these animals, and his studies have been largely restricted to the species which occur in Illinois and contiguous states. It is to be expected that slimy creeping things which lack the beautiful colors of the moths and butterflies or the bizarre and curious forms of beetles and molluscs will not appeal to the instincts of the amateur collector, but an explanation for the neglect of such an important class of animals by professional zoologists is more difficult to find.

Several foreign zoologists have worked on American material, although, as a rule, they have been able to secure only small and quite

<sup>1</sup> Received July 22, 1929.